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ABSTRACT

The study examined the effects of ethnicity, family income, adult education level, and unemployment rates on school achievement. Data were obtained from 85 public school districts in New Mexico which enrolled primarily Spanish-surnamed pupils. The composite achievement scores from the Comprehensive Tests of Basic Skills (CTBS) for grades 5 and 8 were analyzed by one-way analysis of variance. The socioeconomic variables of family income, adult education level, and unemployment rate were then entered as control variables in the analysis of covariance. These analyses, one for grade 5 and another for grade 8, were repeated for each of the following years: 1972, 1973, 1974, and 1975. Data were obtained from the New Mexico School Profiles for each year. It was found that when ethnicity was considered as the sole independent or predictor variable, it accounted for 19 to 30% of school achievement, as measured by the CTBS composite scores. However, when the effects of family income, adult education level, and unemployment were taken into account by covariance procedures, then ethnicity did not have a significant effect on school success, as measured by the CTBS scores. Ethnicity accounted for only 2 to 4% of achievement when the socioeconomic variables were introduced. (NQ)

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THE EFFECTS OF ETHNICITY UPON SCHOOL ACHIEVEMENT

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The University of New Mexico

1977

The academic community has been split by a debate, acrimonious at times, on the relative contributions of the pupil's ethnicity (or race) to that pupil's achievement, or to his ability to achieve. In a word, it is the old nature-nurture controversy reincarnated, this time by professors Jensen and Schockley. The history of the earlier discussions has been ably presented elsewhere; no attempt is made in this paper to revisit that arena. However, it is salient to consider some of the points offered by one of the two major protagonists.

As a starting point, Jensen (1969) noted that compensatory education was a failure: experience, cultural enrichment, stress on basic skills, none seemed to show much impact upon disadvantaged children, most of whom were from minority groups. Given the context of these remarks, one must conclude that Jensen attributed these failures to the ethnicity of the learners. He subsequently reported that ". . . the notion that IQ tests discriminate largely in terms of race or social class is just a myth." (1976a, p. 340). He feels that environment is a factor only for the very young who are exposed to deplorable conditions (1969, pp. 59-63). Subsequent data reported that whites possess higher levels of "g" (Spearman's) than do blacks (Jensen and Figueroa, 1975). Vernon and Mitchell (1974) provided partial support.

Refutations have not been slow in appearing. Rohwer (1975) noted that many pupils fail regardless of race. The real culprit is an outmoded curriculum that presents abstract tasks far too early. The Jensen stress upon genetic variables was called into sharp question by Bridgeman and Buttram (1975); but Jensen (1976b) retorted that they had applied ". . . the paradigm of a false syllogism." (p. 130).

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Although Jensen acknowledges the possible involvement of socioeconomic variables, in the actual event, such variables play a limited role in his presentations. In this study, we pointedly introduce the variables of family income, adult education level, and unemployment rates, as well as pupils' ethnicity. The naturalistic models of the type reviewed by Ellsworth (1977) and Wilson (1977) and applied by Bloom (1968) were utilized to examine the specific contributions to school success for each variable. The strengths and weaknesses of this approach to research are explored in considerable depth by Dogan and Rokkan (1969) and will not be reviewed at this time.

Procedures

The 88 public school districts of the State of New Mexico were divided into five groups according to the percentages of Spanish-surnamed pupils. Thus, we obtained 16 districts with fewer than 20% Spanish-surnamed pupils, 25 between 20 and 39%, 15 between 40 and 59%, 15 between 60 and 79%, and 14 districts enrolling more than 79% Spanish-surnamed pupils. The subsequent analyses are based upon these 85 school districts (three districts from the original 88 were dropped; they enrolled primarily Native American pupils). The composite achievement scores from the Comprehensive Tests of Basic Skills (CTBS) for grades 5 and 8 were analyzed by one-way analysis of variance. Then, the socioeconomic variables of family income, adult education level, and unemployment rate were entered as control variables in the analysis of covariance. These analyses, two per year (one for grade 5, and another for grade 8) were repeated for each of the four years: 1972, 1973, 1974, and 1975. The data were obtained from the New Mexico School Profiles for each of the stated years.

Findings

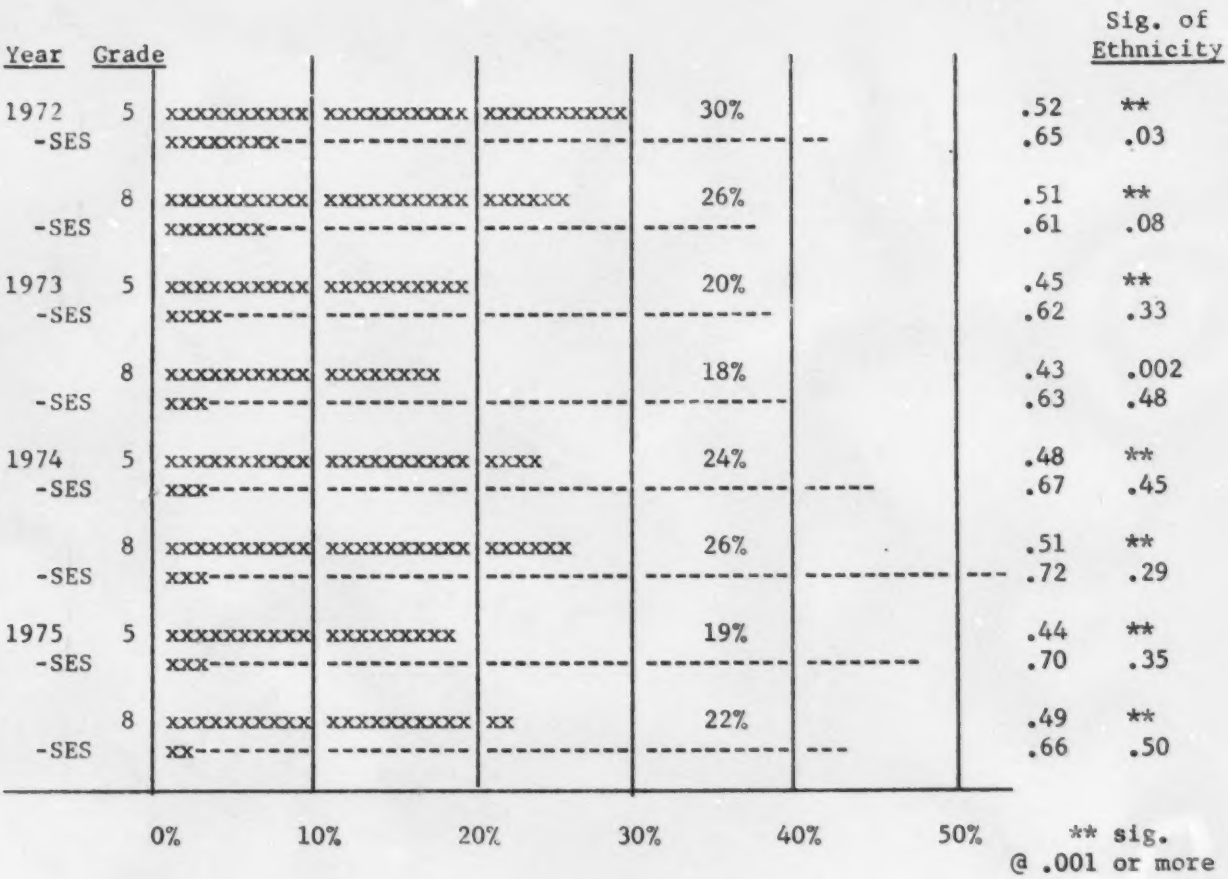
Ethnicity when taken as the sole independent or predictor variable accounted for from 19% to 30% of school achievement as measured by the composite for grades 5 or 8 on the Comprehensive Tests of Basic Skills over the period 1972 to 1975 in the 88 public school districts of the State of New Mexico. This finding supports the work reported earlier by Jensen. Thus, ethnicity (in this case, percentage of pupils of Spanish surname) contributed heavily to academic achievement. The story is revealed in Figure 1.

The figure shows, for example, that in the year 1972, 30% of the variation in grade 5 CTBS scores can be attributed to the pupils' ethnicity. During the same year, we find that 26% of the variation grade 8 CTBS scores can be explained by ethnicity.

However, when the effects of family income, adult education level, and unemployment are taken into account by covariance procedures, then ethnicity takes a back seat. It becomes replaced by the socioeconomic variables. Referring again to Figure 1, for the year 1972, we see that ethnicity accounted for only 8% of the variation in CTBS scores for grade 5; the socioeconomic variables explained 34% of the achievement variance. This story was repeated for each year of our analysis: ethnicity accounted for only 2 to 4% of achievement when the socioeconomic variables were introduced.

The levels of significance show that the contributions of ethnicity to school achievement were very high (mostly exceeding the .001 level) when considered alone. As socioeconomic variables were entered, the significance levels dropped dramatically, except 1972. This situation is further reflected by the multiple correlation coefficients; much of school success can be attributed to the action or presence of socioeconomic forces, a finding congruent with Coleman (1966).

Percentages of Variance in Achievement (CTBS) Due to Ethnicity and to Socio-economic Variables (N = 85 School Districts)


Year
Grade
Sig. of Ethnicity
1972 5 xxxxxxxxxx xxxxxxxxxx xxxxxxxxxx 30% .52 **
-SES xxxxxxxx-- ---------- ---------- ---------- -- .65 .03
8 xxxxxxxxxx xxxxxxxxxx xxxxxx 26% .51 **
-SES xxxxxxx--- ---------- ---------- -------- .61 .08
1973 5 xxxxxxxxxx xxxxxxxxxx 20% .45 **
-SES xxxx------ ---------- ---------- --------- .62 .33
8 xxxxxxxxxx xxxxxxxx 18% .43 .002
-SES xxx------- ---------- ---------- ---------- .63 .48
1974 5 xxxxxxxxxx xxxxxxxxxx xxxx 24% .48 **
-SES xxx------- ---------- ---------- ---------- ----- .67 .45
8 xxxxxxxxxx xxxxxxxxxx xxxxxx 26% .51 **
-SES xxx------- ---------- ---------- ---------- ---------- --- .72 .29
1975 5 xxxxxxxxxx xxxxxxxxx 19% .44 **
-SES xxx------- ---------- ---------- ---------- -------- .70 .35
8 xxxxxxxxxx xxxxxxxxxx xx 22% .49 **
-SES xx-------- ---------- ---------- ---------- --- .66 .50
0% 10% 20% 30% 40% 50%
** sig. @ .001 or more

Percentage of Variance Explained: xx = Variance due to ethnicity

-- = Variance due to effects of family income, adult educational level, and unemployment

NOTE: Each symbol, x or -, shows one percent.

Conclusions

Ethnicity is responsible for a minor, if not insignificant proportion of school success in New Mexico as measured by performance on CTBS. Its effects are interwoven with the negative influences of poverty, limited adult education levels, and unemployment. The Jensen hypotheses are rejected on the basis of data reported here, and as they related to pupils with Spanish surnames.

Our data base was that of school district aggregates, rather than the more familiar research paradigms utilizing data from individual pupils and from their families. We utilized total school district averages for all data. Thus, family income, etc., refer to census data for that school district, and not specifically to parents of school pupils. Consequently, should such a study be repeated with data from individual pupils and their parents, then the findings might well erase even the small and insignificant contributions that we noted as due to learners' ethnicity.

There is, however, a "catch 22" in these findings. Since ethnicity is not a determinant of school achievement, then we must question current activity in the domain of bilingual education. Presumably, such programs are based upon the assumption that ethnicity and culture do impinge upon achievement. Our data reject this assumption. The true problem lies in the family and in the community. The problems of academic success are enmeshed in poverty, low adult education levels, and in unemployment. Based upon this study, we strongly urge that the consequences of socioeconomic variables upon cognitive development be explored, and that interventions be based upon these lines of analysis, rather than upon ethnicity or culture. Our data clearly show that interventions which ignore the potent socioeconomic variables can have only limited success.

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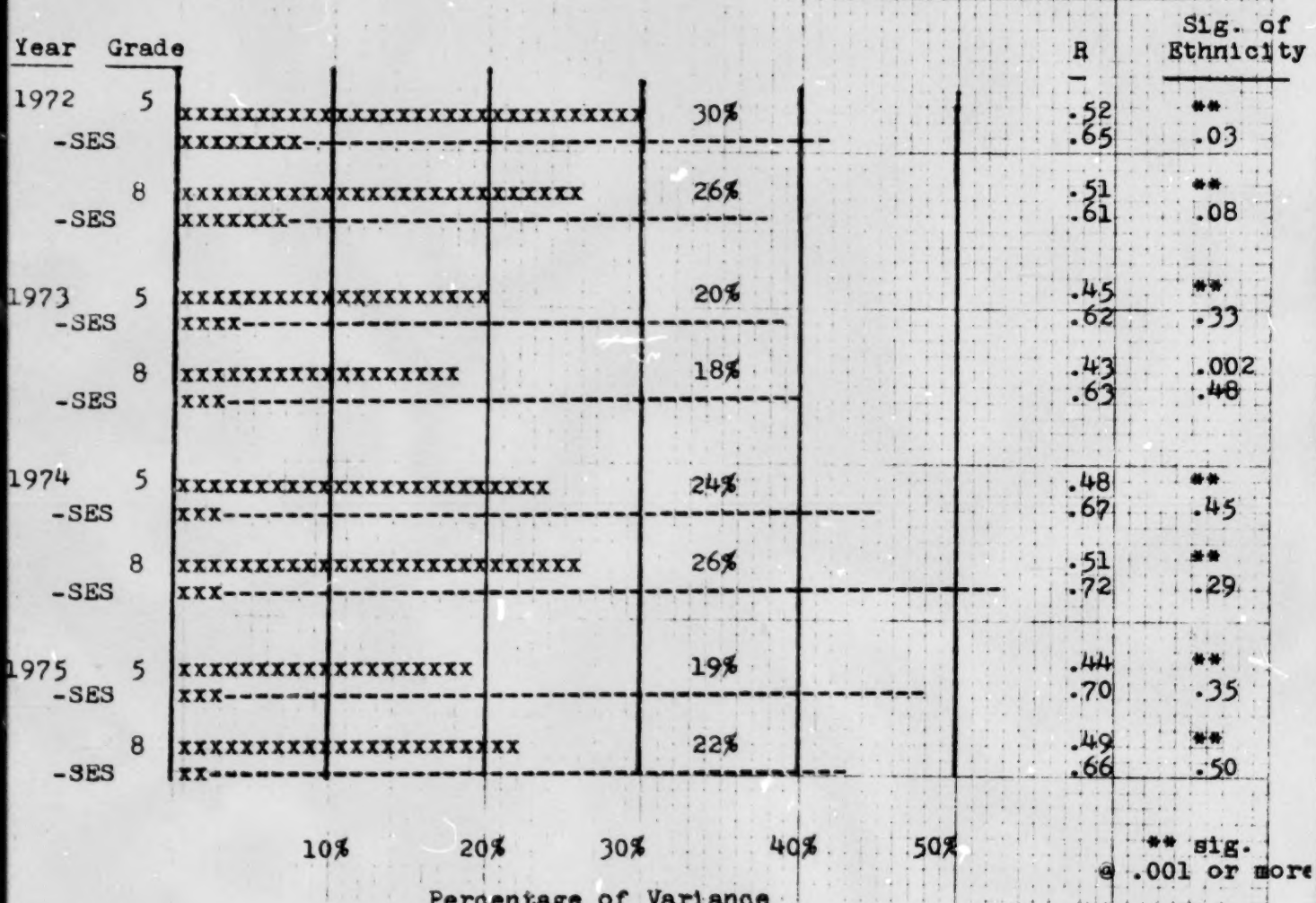
Figure 1

Percentages of Variance in Achievement (CTBS) Due to Ethnicity and to Socio-economic Variables (N = 88 School Districts)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